PATENT CLAIMS

1) An appliance for reading from and/or writing to optical recording media, **characterized in that** signals which are required for carrying out differential focusing methods also are used for generation of a land groove detection signal.

2) A method for generating a track type signal (DFO) in a scanning unit for optical recording media (7) having data stored in tracks, with the scanning unit having an objective lens (6) and a focus control loop, producing an optical main beam and at least one secondary beam, evaluating light reflected from the recording medium (7) with a plurality of photodetector segments (9) which are associated with the beams, deriving a first error signal (CFE) from the signals of the photodetector segments (9, A, B, C, D) associated with the main beam and deriving a second error signal (OFE) from the signals of the photodetector segments (9, E1-E4, F1-F4) associated with the secondary beams, characterized by:

- scanning of the optical recording medium (7) with deflection of the objective lens (6) in focus direction;
- measurement of two measurement signals (CFE, OFE, S) which are formed differently and contain details about the distance of the objective lens (6) relative to the recording medium (7) and about the position of the scanning beam relative to the tracks on the recording medium (7);
- evaluation of the measurement signals;
- setting of branch weights (K, K', 1+K, 1-K) controlled by the result of the evaluation;
- formation of the track type signal (DFO) by combination of the first error signal (CFE) multiplied by a first of the branch weights (1+K) and of the second error signal (OFE) multiplied by a

second of the branch weights (1-K, K, K').

3. The method as claimed in claim 2, which is used with the focus control loop switched on, with the objective lens (6) being deflected by feeding a disturbance signal (S) into the focus control loop, a track error component contained in the error signals (CFE, OFE) and caused by the disturbance signal (S) being extracted, and the correct setting of the branch weights (K, K', 1+K, 1-K) being determined from the phase angle and the amplitude of the track error component.

4. The method as claimed in claim 3, with the first measurement signal being formed from the disturbance signal (S) and the second measurement signal being formed from the difference between the first error signal (CFE) and the second error signal (OFE) in order to extract the track error component, and the product of the measurement signals being evaluated as the evaluation signal.

5. The method as claimed in claim 4, with the evaluation signal being evaluated by averaging or integration.

6. The method as claimed in claim 2, in which the objective lens (6) is deflected by moving it toward the recording medium (7) with the focus control loop open.

7. The method as claimed in claim 6, in which the first measurement signal is formed from the first error signal (CFE), the second measurement signal is formed from the second error signal (OFE), the amplitudes of the measurement signals are evaluated, and the branch weights (K, K', 1+K, 1-K) are calculated from the measured amplitudes such that the difference between the error signals multiplied by the branch weights

disappears.

8. The method as claimed in claim 6, in which the first measurement signal is formed from the first error signal (CFE) multiplied by the first branch weight (1+K), the second measurement signal is formed from the second error signal (OFE) multiplied by the second branch weight (1-K, K, K') the amplitudes of the measurement signals are evaluated and, if there are any differences between the amplitudes, the branch weights (K, K', 1+K, 1-K) are changed in at least one adjustment step such that the difference between the amplitudes is reduced.

9. The method as claimed in claim 3 or 9, with the magnitude of the change to the branch weights (K, K', 1+K, 1-K) in an adjustment step being determined as a function of the value of the evaluation signal in a previous adjustment step.

10. The method as claimed in one of claims 2 to 9, with signals which are involved being normalized with respect to the sum of the individual signals on which they are each based.

11. An apparatus for carrying out one of the methods as claimed in claims 2 to 10.